

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of producing a glass substrate for a mask blank, the method comprising:

a profile measuring step of measuring a convex/concave profile of a surface of the glass substrate for a mask blank;

a flatness control step of controlling a flatness of the surface of the glass substrate to a value not greater than a predetermined reference value determined depending upon a required flatness required to the glass substrate by specifying the degree of convexity of a convex portion present on the surface of the glass substrate with reference to a result of measurement obtained in the profile measuring step and by executing local machining upon the convex portion under a machining condition depending upon the degree of convexity; and

a non-contact polishing step of polishing, after the flatness control step, the surface of the glass substrate subjected to the local machining by the action of a machining liquid interposed between the surface of the glass substrate and a surface of a polishing tool without direct contact therebetween.

2. (original) A method according to claim 1, wherein the non-contact polishing step is carried out by float polishing.

3. (original) A method according to claim 1 or 2, wherein:

the machining liquid comprises:

an aqueous solution selected from water, an acidic aqueous solution, and an alkaline aqueous solution; or

a mixture of the aqueous solution and at least one kind of fine powder particles selected from colloidal silica, cerium oxide, zirconium oxide, and aluminum oxide.

4. (currently amended): A method according to ~~any one of claims 1 through 3~~ claim 1, wherein the local machining is carried out by plasma etching, a gas cluster ion beam, or MRF (MagnetoRheological Finishing).

5. (currently amended): A method according to ~~any one of claims 1 through 4~~ claim 1, wherein the reference value is not greater than 0.25 μm .

6. (currently amended): A method of producing a mask blank, the method comprising the steps of preparing the glass substrate obtained by the method according to ~~any one of claims 1 to 5~~ claim 1, and forming a thin film as a transferred pattern on the glass substrate.

7. (original) A method of producing a transfer mask, the method comprising the steps of preparing the mask blank obtained by the method according to claim 6 and patterning the thin film of the mask blank to form a thin film pattern on the glass substrate.

8. (original) A method of producing a semiconductor device, the method comprising the steps of preparing the transfer mask obtained by the method according to claim 7 and transferring the thin film pattern of the transfer mask onto a semiconductor substrate by lithography.